Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in this application.

Listing of Claims:

1. (Currently amended) Method of determining the adhesion properties of at least one coating or film of at least one first material to a substrate of a second material comprising,

charging said coating or film with at least one absorbate and determining at least partially, at least one critical physical or chemical parameter at which said coating or film detaches from the substrate wherein the critical parameter is the amount of absorbate charged.

2. Cancelled.

3. (Currently amended) Method ~~according to claim 1,~~ of determining the adhesion properties of at least one coating or film of at least one first material to a substrate of a second material comprising,

charging said coating or film with at least one absorbate and determining at least partially, at least one critical physical or chemical parameter at which said coating or film detaches from the substrate

wherein the critical parameter is the substrate curvature resulting where appropriate from charging with the absorbate.

4. (Previously presented) Method according to claim 1, wherein the method steps are

implemented at least twice and the thickness of the coating or film is varied.

5. (Original) Method according to claim 1, wherein the critical parameter is used to determine the quantity known as the adhesion energy.

6. (Previously presented) Method according to claim 5, wherein the adhesion energy is determined by determining the slope of a plot of the critical parameter against the reciprocal root of the thickness of the coating or film.

7. (Original) Method according to claim 1, wherein the thickness of the coating or film is low relative to the thickness of the substrate.

8. (Previously presented) Method according to claim 1, wherein the relationship Es^2/d is between 10^8 Pa·m and 10^{14} Pa·m, where E is the elasticity modulus of the substrate, s is the thickness of the substrate and d is the thickness of the coating or film.

9. (Previously presented) Method according to claim 1, wherein the thickness of the coating or film or the thickness of the substrate is between 1 nm and 5 mm.

10. (Original) Method according to claim 9, wherein the thickness of the substrate is between 1 μm and 5 mm and the thickness of the coating or film is between 1 nm and 1 μm.

11. (Original) Method according to claim 1, wherein the absorbate is at least one liquid.

12. (Original) Method according to claim 11, wherein the absorbate is water.

13. (Previously presented) Method according to claim 11, wherein the absorbate is dichloromethane or tetrachloromethane.

14. (Original) Method according to claim 1, wherein the absorbate is at least one gas.

15. (Original) Method according to claim 14, wherein the absorbate is carbon dioxide.

16. (Previously presented) Method according to claim 14, wherein the absorbate is hydrogen.

17. (Original) Method according to claim 1, wherein charging with the absorbate takes place directly from the liquid phase or gas phase.

18. (Original) Method according to claim 1, wherein charging with the gas takes place by electrochemical charging.

19. (Previously presented) Method according to claim 1, wherein the first material, is a metal.

20. (Previously presented) Method according to claim 1, wherein the first material is a

polymer material.

21. (Previously presented) Method according to claim 1, wherein the second material is a polymer material.

22. (Previously presented) Method according to claim 1, wherein the second material is a metal.

23. (Previously presented) Method according to claim 1, wherein in order to determine the critical parameter the detachment process of the coating or film from the substrate is monitored optically by using a light microscope.

24. (Previously presented) Method according to claim 1, wherein in order to determine the critical parameter in the detachment process of the coating or film from the substrate, the surface roughness is monitored by determination of the surface reflectivity or of the surface scattering behaviour.

25. (Original) Method according to claim 1, wherein at least one coating/film which absorbs the absorbate is firmly connected to at least one further coating/film which does not absorb the absorbate, or which absorbs it only at a low concentration, and by charging the coating/film which absorbs the absorbate with the absorbate the adhesion properties of the coating/film which does not absorb the absorbate or which absorbs it only at a low concentration to the substrate is

determined.

26. (Previously presented) Method according to claim 1, wherein for the determination of the adhesion properties, including the substrate, a layer construction of from two to four layers is provided.

27. (New) Method according to claim 3, wherein the method steps are implemented at least twice and the thickness of the coating or film is varied.

28. (New) Method according to claim 3, wherein the critical parameter is used to determine the quantity known as the adhesion energy.

29. (New) Method according to claim 28, wherein the adhesion energy is determined by determining the slope of a plot of the critical parameter against the reciprocal root of the thickness of the coating or film.

30. (New) Method according to claim 3, wherein the thickness of the coating or film is low relative to the thickness of the substrate.

31. (New) Method according to claim 3, wherein the relationship Es^2/d is between 10^8 Pa·m and 10^{14} Pa·m, where E is the elasticity modulus of the substrate, s is the thickness of the substrate and d is the thickness of the coating or film.

32. (New) Method according to claim 3, wherein the thickness of the coating or film or the thickness of the substrate is between 1 nm and 5 mm.

33. (New) Method according to claim 32, wherein the thickness of the substrate is between 1 μm and 5 mm and the thickness of the coating or film is between 1 nm and 1 μm.

34. (New) Method according to claim 3, wherein the absorbate is at least one liquid.

35. (New) Method according to claim 34, wherein the absorbate is water.

36. (New) Method according to claim 34, wherein the absorbate is-dichloromethane or tetrachloromethane.

37. (New) Method according to claim 3, wherein the absorbate is at least one gas.

38. (New) Method according to claim 37, wherein the absorbate is carbon dioxide.

39. (New) Method according to claim 37, wherein the absorbate is hydrogen.

40. (New) Method according to claim 3, wherein charging with the absorbate takes place directly from the liquid phase or gas phase.

41. (New) Method according to claim 3, wherein charging with the gas takes place by electrochemical charging.

42. (New) Method according to claim 3, wherein the first material, is a metal.

43. (New) Method according to claim 3, wherein the first material is a polymer material.

44. (New) Method according to claim 3, wherein the second material is a polymer material.

45. (New) Method according to claim 3, wherein the second material is a metal.

46. (New) Method according to claim 3, wherein in order to determine the critical parameter the detachment process of the coating or film from the substrate is monitored optically by using a light microscope.

47. (New) Method according to claim 3, wherein in order to determine the critical parameter in the detachment process of the coating or film from the substrate, the surface roughness is monitored by determination of the surface reflectivity or of the surface scattering behaviour.

48. (New) Method according to claim 3, wherein at least one coating/film which absorbs the absorbate is firmly connected to at least one further coating/film which does not absorb the

absorbate, or which absorbs it only at a low concentration, and by charging the coating/film which absorbs the absorbate with the absorbate the adhesion properties of the coating/film which does not absorb the absorbate or which absorbs it only at a low concentration to the substrate is determined.

49. (New) Method according to claim 3, wherein for the determination of the adhesion properties, including the substrate, a layer construction of from two to four layers is provided.